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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,601	08/07/2008	Ian Revie	DEP5301USPCT	7647

27777 7590 03/18/2010

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EXAMINER	
SELKIN, SAUREL J	

ART UNIT	PAPER NUMBER
3768	

NOTIFICATION DATE	DELIVERY MODE
03/18/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/598,601	REVIE ET AL.	
	Examiner	Art Unit	
	SAUREL J. SELKIN	3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 September 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/05/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claims 1, 2, 4, 5, 10, 19, 20, 23, 24, 25, 26 are rejected under 35 U.S.C. 102(a) as being anticipated by Kosaka et al (US 6,640,127, henceforth referred to as Kosaka).

2. Kosaka discloses a method for generating a registered image of a body part of a patient for use in a computer aided surgical procedure, the method comprising: attaching a marker detectable by a tracking system to the body part prior to any surgical steps of the surgical procedure, the tracking system having a reference frame; detecting the position of the marker in the reference frame; capturing at least a first image of the body part using an imaging system; obtaining an indication of the position of the first image relative to the reference frame of the tracking system; and determining a mapping to bring the first image into registration with the position of the body part, displaying the registered image during the computer aided surgical procedure (col.24, 18-32; fig. 8, fig. 19) wherein the first image includes the marker and at least a part of the body part, and wherein the position of the marker is detected when the first image is captured thereby providing the indication (fig. 13) and the imaging system is an x-ray or MR system (abstract) and wherein the first image includes the marker and at least a part of the body part and wherein the position of the marker is detected when the first

image is captured. Kosaka also discloses attaching a second marker to the body of the patient and tracking said second marker (fig. 17).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 3, 13, 14, 15, 16, 21, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosaka in view of Cosman (US 2002/0188194).

Kosaka discloses the method substantially as claimed but fails to disclose attaching markers to the imaging device.

Cosman discloses attaching markers 40a, 40b, 40c to an imaging device 191 during a medical procedure, attaching markers 30, 31, 32 to the patient support, determining the position of the patient support in a reference coordinate system and determining the position of the imaging device within the coordinate system of the tracking system [0104]. Cosman also discloses moving the support on which the patient lays and imaging the patient from different positions, moving x-ray source relative to the patient and determining the position of the x-ray source relative to the coordinate system of the tracking device [0025], [0030]-.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Kosaka's method by attaching markers to the imaging device, as taught by Cosman, in order to enable the determination of the position of the patient relative to the imaging device. It would also have been obvious to one of ordinary skill in the art to move the support on which the patient lays and image the patient from different positions to insure proper positioning of the patient and proper registration of the images.

4. Claims 6, 7, 9, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosaka in view of Carson (US 2002/0198451).

Kosaka discloses the method substantially as claimed but fails to disclose the surgical procedure being an orthopaedic procedure and attaching the markers to a bone.

Carson discloses an image guided orthopaedic procedure wherein markers are attached to the bones of the patient (fig. 1, fig. 2, [0010]) and the markers are detectable using radio frequencies (clm 6).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Kosaka's method by using the system in an orthopaedic procedure and attaching the markers to the bones of a patient, as taught by Carson, in order enable image guidance of the surgeon during such surgeries.

Regarding claim 11, although both Kosaka and Carson fail to explicitly disclose the patient being in a standing position, on of ordinary skill in the art would have recognized that the position of the marker would be detected with the patient in whatever position required by the circumstances of the procedure, including in a standing position.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kosaka in view of Carson as applied to claim 7 above, and further in view of Song (US 6,942,667).

The Kosaka and Carson combination discloses the method substantially as claimed but fails to disclose percutaneously implanting the marker.

Song discloses the percutaneous implantation of markers to bones (col. 2 lines 32-43).

It would have been obvious to one having ordinary skill in the art at the time of invention to modify the method of the Kosaka and Carson combination by

percutaneously implanting the marker to the body, as taught by Song, in order to reduce the trauma associated with the procedure.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kosaka in view of Govari et al (US 2003/0023161, henceforth referred to as Govari).

Kosaka discloses the method substantially as claimed but fails to disclose a wireless magnetic tracking system.

Govari discloses a wireless magnetic tracking system for medical applications.

It would have been obvious to one having ordinary skill in the art at the time of invention to modify Kosaka's method by providing wireless magnetic means to track the markers, as taught by Govari, in order to increase versatility of the method.

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kosaka in view of Cosman as applied to claim 14 above, and further in view of Schweikard et al (US 6,144,875, henceforth referred to as Schweikard).

The Kosaka and Carson combination discloses the method substantially as claimed but fails to disclose two x-rays sources at different positions.

Schweikard discloses using an x-ray device comprising two x-ray sources 30, 32 located at different positions (fig. 2) for tracking motion of a patient.

It would have been obvious to one having ordinary skill in the art at the time of invention to modify the method of the Kosaka and Carson combination by providing an

x-ray device comprising two x-ray sources 30, 32 located at different positions, as taught by Schweikard, in order to improve the tracking capabilities of the device.

8. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kosaka in view of Cosman as applied to claim 14 above, and further in view of Schuetz (US 6,206,566).

The Kosaka and Carson combination discloses the method substantially as claimed but fails to disclose generating a three dimensional image from two images.

Schuetz discloses generating a three dimensional images from two dimensional images.

It would have been obvious to one having ordinary skill in the art at the time of invention to modify the method of the Kosaka and Carson combination by generating a three dimensional images from two dimensional images, as taught by Schuetz, in order provide three dimensional images for viewing to the surgeon.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAUREL J. SELKIN whose telephone number is (571)270-3813. The examiner can normally be reached on Monday-Thursday 7:00 a.m.- 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. J. S./
Examiner, Art Unit 3768

/Long V Le/
Supervisory Patent Examiner, Art Unit 3768